

04/22/14 Agenda

- Chapter 9 - Quadratic Functions & Equations
 - Day 1 - Graphing from a Table (finish)
 - Day 2 - Graphing using Axis of Symmetry & Vertex

Homework

- Worksheet 2 - Graph using AoS & Vertex

Quadratics - Day 1 - Graphing from a Table

April 22, 2014

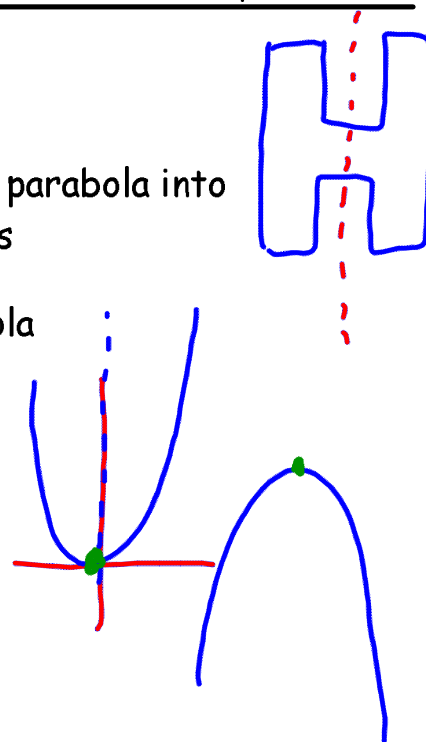
Vocabulary:

Axis/Line of Symmetry: A line that splits a parabola into two matching halves

Vertex: Highest or lowest point of a parabola

Minimum: The vertex is the lowest point

Maximum: The vertex is the highest point.



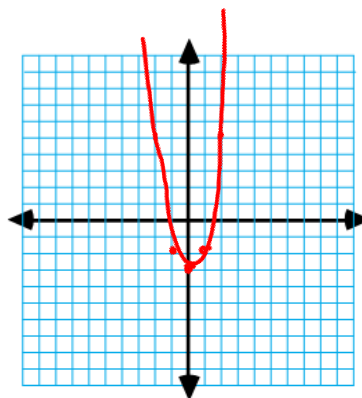
Quadratics - Day 2 - Graphing using Symmetry & Vertex

April 22, 2014

Warm Up:

$$y = x^2 - 3$$

x	y



$$y = -2x^2 + 4x + 1$$

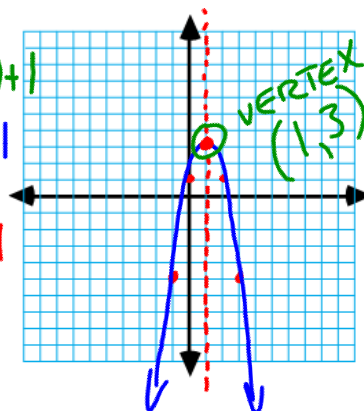
x	y
-2	-15
-1	-5
0	+1
1	+3
2	+1
3	-5

$$y = -2(-2)^2 + 4(-2) + 1$$

$$y = -2(-1)^2 + 4(-1) + 1$$

$$y = -2(1)^2 + 4(1) + 1$$

$$\text{AoS: } (x=1)$$



Quadratics - Day 2 - Graphing using Symmetry & Vertex

April 22, 2014

Lets learn a new way for graphing, and shorten our x-y tables a bit!

$$y = -2x^2 + 4x + 1$$

Standard Form of a Quadratic Function: $Ax^2 + Bx + C$ $A = -2$
 $B = 4$

Finding the Axis of Symmetry (AoS): $x = \frac{-B}{2A}$ $\frac{-4}{2(-2)} = \frac{-4}{-4} = 1$

(this will be a VERTICAL dotted line)

Finding the Vertex: (x, y) Vertex is a MAX if $A < 0$

Vertex is a MIN if $A > 0$

FROM AoS → SOLVE FOR

Practice: $y = x^2 - 3$

$$Ax^2 + Bx + C$$

STANDARD FORM? y $A = 1$ $B = 0$ $C = -3$

AoS: $x = \frac{-B}{2A} = \frac{0}{2} = x = 0$

Vertex: (x, y) $(0, -3)$ $y = 0^2 - 3$
 $y = -3$

